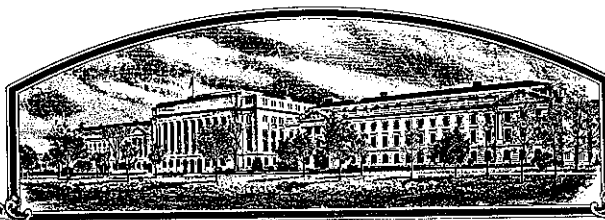


No.

8200182



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Musser Seed Co., Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT OF 1930, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PUMPKIN

'Goldilocks'



In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington
this 27th day of February in
the year of our Lord one thousand nine
hundred and eighty-four.

Attest:

Kenneth F. Evans
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

FORM APPROVED: OMB NO.0581-0055

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S) MUSSEY SEED CO., INC.		2. TEMPORARY DESIGNATION 82-2177		3. VARIETY NAME GOLDILOCKS	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P.O. Box 1406 351 So. Park Ave. West Twin Falls, ID 83301		5. PHONE (Include area code) 208-734-2377		FOR OFFICIAL USE ONLY PVPO NUMBER 8200182	
6. GENUS AND SPECIES NAME Cucurbita pepo		7. FAMILY NAME (Botanical) Cucurbitaceae		FILING DATE 9-17-82 TIME 12:30 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	
8. KIND NAME Pumpkin		9. DATE OF DETERMINATION 5-1-82		FEE RECEIVED AMOUNT FOR FILING \$ 500.00 DATE 9/17/82 AMOUNT FOR CERTIFICATE \$ 250.00 DATE 1/25/84	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) MUSSEY SEED CO., INC. (Corporation)					
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Idaho				12. DATE OF INCORPORATION	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Paul H. Yorty P.O. Box 1406 Twin Falls, ID 83301 TEL: 208-733-0077					

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

- a. ☒ Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
b. ☒ Exhibit B, Novelty Statement
c. ☒ Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
d. ☐ Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.)
☐ Yes (If "Yes," answer items 16 and 17 below) ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☒ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
☐ Yes (If "Yes," give names of countries and dates)
☒ No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?
☐ Yes (If "Yes," give names of countries and dates)
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.
The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT Paul H. Yorty	DATE 9/13/82
SIGNATURE OF APPLICANT	DATE 1

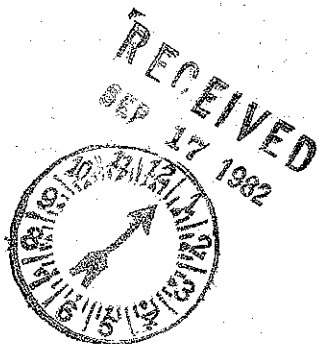
INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

- 9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 15 If "Yes" is specified (*seed of this variety be sold by variety name only as a class of certified seed*) the applicant may **NOT** reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 16 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

GPO 890-698





Musser Seed Co., Inc.

8200182

TWIN FALLS, IDAHO P. O. BOX 1406
351 SOUTH PARK AVENUE WEST 83301

(208) 734-2377

SANTA MARIA, CALIF. P. O. BOX 527
706 SOUTH OAKLEY AVENUE 93456

(805) 928-2518

CALDWELL, IDAHO P. O. BOX 787
1403 CHICAGO STREET 83605

(208) 459-8243

EXHIBIT A

The breeding work to develop this variety ^{'GOLDILOCKS' Afs} was begun during May 1978. "Small Sugar Pie" pumpkin was first crossed with "Table Gold" acorn and then backcrossed 3 more times to "Small Sugar Pie". This was followed by 6 consecutive backcrosses to "Spookie". Selection for the precocious gene was made during each generation after the initial cross. The BC₉F₂ generation was selfed to produce pure plants having pure golden fruits (homozygous for the precocious gene). These pure seeds were used to produce our initial stock seed increase from 20 plants. As expected, all fruits were pure for fruit color and shape while the plant type was very similar to "Spookie".

A 25 foot plot was also planted in the field for further observation. The only variants observed were a few with a slightly flattened fruit shape which is quite normal for pumpkins. Both plant and fruit uniformity was excellent.

EXHIBIT B

This variety ^{'GOLDILOCKS' Afs} is distinctly different from all other known pumpkin varieties because it possesses the precocious gene which causes fruits to become yellow before anthesis. (Normal pumpkins are medium green before anthesis after which they become dark green before turning orange near maturity.) Fruit color becomes deeper yellow with maturity and is medium orange when normal fruits are dark green. Beginning at this stage, they are usable for either food or ornamental purposes. The fruit becomes orange about 2 or 3 weeks earlier than other varieties and could be quite valuable in areas with short growing seasons. At full maturity, flesh color is a bright deep orange compared to yellow or pale orange for normal pumpkins. Flesh color at all stages of fruit growth is distinctly superior to normal pumpkins.

September 13, 1982

PAUL YORTY

NOTICE — LIMITATION OF WARRANTY AND OF LIABILITY: SELLER WARRANTS THAT THE SEED IT SELLS WILL BE, AT THE TIME OF DELIVERY, AS DESCRIBED ON THE CONTAINER WITHIN RECOGNIZED TOLERANCES. SELLER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE, AND IN ANY EVENT LIABILITY FOR BREACH OF ANY WARRANTY OR CONTRACT WITH RESPECT TO SUCH SEEDS IS LIMITED TO THE PURCHASE PRICE OF SUCH SEED. SELLERS LIABILITY, WHETHER CONTRACTUAL, FOR NEGLIGENCE OR OTHERWISE, IS LIMITED IN AMOUNT TO THE PURCHASE PRICE OF THE SEEDS UNDER ALL CIRCUMSTANCES AND REGARDLESS OF THE NATURE, CAUSE OR EXTENT OF THE LOSS, AND AS A CONDITION TO ANY LIABILITY ON THE SELLERS PART THE SELLER MUST RECEIVE NOTICE BY REGISTERED MAIL OF ANY CLAIM THAT THE SEED IS DEFECTIVE THIRTY (30) DAYS AFTER THE DEFECT IN THE SEED BECOMES APPARENT. SEED NOT ACCEPTED UNDER THESE TERMS AND CONDITIONS MUST BE RETURNED AT ONCE IN ORIGINAL UNOPENED CONTAINERS AND THE PURCHASE PRICE WILL BE REFUNDED.

"WE FURTHER LIMIT TO SUCH PURCHASE PRICE OUR LIABILITY OF ANY KIND ON ACCOUNT OF ANY NEGLIGENCE WHATSOEVER ON OUR PART WITH RESPECT TO SUCH SEED."

EXHIBIT A

REVISED NOVEMBER 1983

The breeding work to develop this variety was all conducted in our Twin Falls Research Greenhouse beginning in May, 1978. Due to the nature of the precocious gene B for early fruit coloration, fruit color selection was possible in consecutive backcross generations for Bb (heterozygous yellow immature fruit with green ends) compared to bb (green immature fruit, which is the usual color). Immature homozygous BB fruits are completely yellow.

"Small Sugar Pie" pumpkin, (hereafter denoted SSP) was crossed with "Table Gold" acorn (hereafter denoted TG) and then backcrossed 3 times to SSP to incorporate gene B for precocious fruit color development. This was followed by 6 consecutive backcrosses to "Spookie" (hereafter denoted S). See outline for details. Plants in the BC₉ generation were self-pollinated to produce the BC₉F₂ generation which contained 1 homozygous yellow fruit (BB) among 7 heterozygous yellow fruits (Bb) and several green fruits (bb). Seed from this one BB fruit was selfed for our initial stock seed increase from 20 plants. These plants were all pure for fruit color and shape and for plant type.

In June 1983, a 25' plot from lot 82-2117-7 was planted in the field at our Research Farm for further observation. The only variants observed were a few with slightly flattened fruit shape, which is quite normal for pumpkins. Plant and fruit uniformity were both excellent. In 1983, an acreage from lot 82-2177 was grown in California as foundation seed. Plant and fruit uniformity were again excellent with no other offtypes observed.

Details of the breeding program are outlined on the attached sheet. (BC denotes backcross).

OUTLINE OF BREEDING DETAILS

PLANTING DATE	LINE AND GENERATION	LOT & PLANT #	BREEDING WORK AND COMMENTS
MAY 1978	SSP & TG		Made original variety cross
SEPT. 1978	(SSP x TG)F ₁	78-2159-1 x 153-7	BC all 4 plants to SSP
JAN. 1979	(SSP ₂ x TG)BC ₁	78-2385-1 x 384-2	BC 2 Bb plants to SSP
MAY 1979	(SSP ₃ x TG)BC ₂	79-2095-1 x 94-4	BC 2 Bb plants to SSP
AUG. 1979	(SSP ₄ x TG)BC ₃	79-2170-2 x 168-2	Crossed 2 Bb plants to S
JAN. 1980	(S x (SSP ₄ x TG))BC ₄	79-2404-3 x 403-1	BC 4 Bb plants to S
MAY 1980	(S ₂ x (SSP ₄ x TG))BC ₅	80-2097-1 x 96-1	BC 4 Bb plants to S
AUG. 1980	(S ₃ x (SSP ₄ x TG))BC ₆	80-2172-2 x 171-2	BC 3 Bb plants to S
JAN. 1981	(S ₄ x (SSP ₄ x TG))BC ₇	80-2503-1 x 502-2	BC 3 Bb plants to S
MAY 1981	(S ₅ x (SSP ₄ x TG))BC ₈	81-2121-6 x 119-1	BC 2 Bb plants to S
AUG. 1981	(S ₆ x (SSP ₄ x TG))BC ₉	81-2195-2 x 194-1	Self-poll. 4 Bb plants
JAN. 1982	(S ₆ x (SSP ₄ x TG))BC ₉ F ₂	81-2556-5	Self-poll. 8 Bb plants, 1 was BB
MAY 1982	Golden Spookie BC ₉ F ₃	82-2117-7	Self-poll. 20 plants
SEPT. 1982	Golden Spookie BC ₉ F ₃	82-2117-7	Self-poll. 24 plants } bulked 1 lb 6 0zs. seed.
JUNE 1983	Golden Spookie BC ₉ F ₄	82-2177	Natural pollination, expect over 100 lbs. seed.

8200182



TWIN FALLS, IDAHO P. O. BOX 1406 (208) 734-2377
351 SOUTH PARK AVENUE WEST 83301
SANTA MARIA, CALIF. P. O. BOX 527 (805) 928-2518
706 SOUTH OAKLEY AVENUE 93456
CALDWELL, IDAHO P. O. BOX 787 (208) 459-8243
1403 CHICAGO STREET 83605

EXHIBIT B - Revised December 7, 1982

'GOLDILOCKS' n/s

This variety resembles Spookie more closely than any other variety. From a genetic viewpoint, it is virtually identical to Spookie except for presence of the precocious gene which results in the following differences:

Rind Color

1. Color before anthesis
2. Color 2-3 weeks after anthesis
3. Color 4-5 weeks after anthesis
4. Color at maturity(6-8 weeks)

'GOLDILOCKS'

482-21777

medium yellow
deep yellow
medium orange
deep orange

Spookie

medium green
medium dark green
dark green
medium orange

Flesh Color

1. Color from anthesis to 3 weeks
2. Color 4-5 weeks after anthesis
3. Color at maturity(6-8 weeks)

light yellow
medium orange
very deep bright orange

light green
light green
light orange

Flesh thickness

medium thin

medium

Flesh texture (cooked)

very fine

coarse & stringy

Flavor at maturity

fair (strong)

good

Average fruit size (lb)

2.7 (28 fruits)

4.1 (34 fruits)

Fruit shape

round and very smooth

round and medium smooth

Rib furrows

inconspicuous

distinct

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"WE FURTHER LIMIT TO SUCH PURCHASE PRICE OUR LIABILITY OF ANY KIND ON ACCOUNT OF ANY NEGLIGENCE WHATSOEVER ON OUR PART WITH RESPECT TO SUCH SEED."

OBJECTIVE DESCRIPTION OF VARIETY
PUMPKIN/SQUASH/GOURD (CUCURBITA SPP.)

NAME OF APPLICANT(S) MUSSER SEED CO., INC.	VARIETY NAME OR TEMPORARY DESIGNATION 482-21777 'GOLDILOCKS'
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) P.O. Box 1406 351 So. Park Ave. West Twin Falls, ID 83301	FOR OFFICIAL USE ONLY PVPO NUMBER 8200182

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. SPECIES:

<input type="text" value="5"/>	1 = LAGENARIA	2 = MAXIMA	3 = MIXTA	4 = MOSCHATA	5 = PEPO	6 = OTHER (Specify) _____
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2. KIND (According to use):

<input type="text" value="1"/>	1 = PUMPKIN	2 = SQUASH	3 = GOURD
--------------------------------	-------------	------------	-----------

3. TYPE:

<input type="text" value="2"/>	1 = SUMMER (Vegetable Marrow)	2 = WINTER (Boston Marrow)
--------------------------------	-------------------------------	----------------------------

4. COTYLEDON:

<input type="text" value="0"/> <input type="text" value="5"/> <input type="text" value="2"/>	MM. LONG	<input type="text" value="0"/> <input type="text" value="3"/> <input type="text" value="0"/>	MM. WIDE				
<input type="text" value="2"/>	Apex: 1 = TAPERED	2 = ROUNDED	3 = NOTCHED	<input type="text" value="1"/>	Veining: 1 = OBSCURE	2 = PLAINLY VISIBLE	3 = PROMINENT
<input type="text" value="3"/>	1 = LIGHT GREEN	2 = GRAY-GREEN	3 = MEDIUM GREEN	4 = DARK GREEN			

5. PLANT:

<input type="text" value="3"/>	1 = BUSH	2 = SEMI-BUSH	3 = LONG VINES	<input type="text" value="2"/>	1 = PILOSE	2 = PRICKLY	3 = GLABROUS
--------------------------------	----------	---------------	----------------	--------------------------------	------------	-------------	--------------

6. MAIN STEM:

<input type="text" value="2"/>	1 = ROUND	2 = ANGLED	<input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="9"/>	MM. DIAMETER AT MID-POINT OF FIRST INTERNODE	<input type="text" value="3"/> <input type="text" value="3"/> <input type="text" value="5"/>	CM. AVERAGE LENGTH
<input type="text" value="4"/> <input type="text" value="2"/>	AVERAGE NUMBER OF INTERNODES					

7. LEAVES:

<input type="text" value="3"/>	Shape: 1 = OVATE	2 = ORBICULAR	<input type="text" value="3"/>	Shape: 1 = NOT LOBED	2 = SHALLOW LOBED		
	3 = RENIFORM	4 = RETUSE		3 = DEEP LOBED			
<input type="text" value="3"/>	Margin: 1 = ENTIRE	2 = DENTICULATE	3 = DENTATE	<input type="text" value="2"/>	Margin: 1 = FLAT	2 = FRILLED	
AT 3RD INTERNODE - 25 PLANT AVERAGE							
<input type="text" value="2"/> <input type="text" value="5"/>	CM. WIDE	<input type="text" value="2"/> <input type="text" value="4"/>	CM. LONG	<input type="text" value="1"/>	Surface: 1 = SMOOTH		2 = BLISTERED
<input type="text" value="2"/>	Dorsal Surface:	1 = GLABROUS	2 = SOFT HAIRY	3 = BRISTLED			
<input type="text" value="3"/>	Ventral Surface:						
<input type="text" value="4"/>	1 = LIGHT GREEN	2 = GRAY-GREEN	<input type="text" value="1"/>	1 = NOT BLOTCHED	2 = BLOTCHED WITH GRAY		
	3 = MEDIUM GREEN	4 = DARK GREEN					
<input type="text" value="2"/> <input type="text" value="6"/>	CM. PETIOLE LENGTH						

8a. FLOWER - Pistillate:

<input type="text" value="2"/> <input type="text" value="0"/>	CM. DIAMETER	<input type="text" value="1"/>	Ovary: 1 = DRUM-LIKE	3 = FUSIFORM	<input type="text" value="2"/>	Pedicel: CM. LENGTH			
			2 = TURBINATE						
<input type="text" value="2"/>	Margin: 1 = STRAIGHT	2 = CURVED	<input type="text" value="2"/>	Margin: 1 = PLAIN	2 = FRILLED	<input type="text" value="0"/> <input type="text" value="2"/>	Sepals: MM. WIDTH	<input type="text" value="1"/> <input type="text" value="1"/>	Sepals: MM. LENGTH
<input type="text" value="5"/>	Color: 1 = WHITE	2 = LEMON YELLOW	3 = MID-YELLOW	4 = DEEP YELLOW	5 = ORANGE				

2	1	Sepals: MM LENGTH
---	---	----------------------

0	3
---	---

Sepals: MM WIDTH

1	9
---	---

Pedicel: CM LENGTH

5 Color: 1 = WHITE 2 = LEMON YELLOW 3 = MID-YELLOW 4 = DEEP YELLOW 5 = ORANGE

1	3	CM LENGTH
---	---	-----------

1	4	CM WIDTH (Stem end)
---	---	---------------------

1	4	CM WIDTH (Blossom end)
---	---	------------------------

1	2	7	0	GM AVERAGE WEIGHT
---	---	---	---	-------------------

5 Shape according to variety type: { 1 = ACORN 2 = BANANA 3 = BUTTERCUP 4 = BUTTERNUT
5 = CONNECTICUT FIELD 6 = CROOKNECK 7 = HUBBARD 8 = SCALLOP
9 = STRAIGHTNECK 10 = OTHER (Specify) _____

1 Apex: 1 = DEPRESSED 2 = FLATTENED

Base: 3 = ROUNDED 4 = TAPER POINTED

2 Ribs: 1 = NONE 2 = INCONSPICUOUS 3 = PROMINANT

1 Rib Furrows: 1 = SHALLOW 2 = MEDIUM DEEP **1** Rib Furrows: 1 = NARROW 2 = MEDIUM WIDE 3 = WIDE

1	Fruit	1 = SMOOTH
	Surface:	2 = FINE WRINKLE
		3 = SHALLOWLY WAVY

1 Warts: 1 = NONE 2 = FEW 3 = MANY 0 1 Blossom Scar Button:

1 = DEPRESSED
2 = SLIGHTLY EXTENDED
3 = RAISED ACORN

0	2	MM THICKNESS AT MEDIAL
---	---	------------------------

1

1 = SOFT 2 = HARD 3 = WOODY & TOUGH

1 COLOR PATTERN: 1 = REGULAR 2 = IRREGULAR

COLORS: (Select two when necessary, i.e. Grayish—Buff)

1	2
---	---

0	4
---	---

01 = WHITE 02 = CREAM 03 = YELLOW 04 = BUFF 05 = BROWN 06 = BRONZE 07 = GREEN 08 = ORANGE
08 = PINK 10 = RED 11 = BLUE 12 = GRAY 13 = BLACK 14 = OTHER (Specify) _____

		0	8	SELF OR GROUND
--	--	---	---	----------------

PATTERN:

LOCATION OF PATTERN COLORS:

		STREAKS	

--	--

0	8
---	---

STRIPES

<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			SPOTS

BLOTCHES

		08	LACE
--	--	----	------

		OTHER (Specify)
--	--	-----------------

1 1 = NOT SPECIFIC

2 = STEM END HALF

3 = BLOSSOM END HALF

4 = ACORN OR TORBAN

5 = OTHER (Specify)

1	5	Thickness: MM BLOSSOM END
---	---	---------------------------

1	5
---	---

Thickness: MM-MEDIAL

1	7
---	---

Thickness: MM STEM
END

8200182

Texture: 1 = FINE 2 = GRANULAR 3 = LUMPY 4 = STRINGY
 Texture: 1 = SOFT 2 = FIRM 3 = BRITTLE

Texture: 1 = DRY 2 = MOIST 3 = JUICY
 Flavor: 1 = INSIPID 2 = SLIGHTLY SWEET 3 = SWEET

Quality: 1 = INEDIBLE 2 = GOOD 3 = EXCELLENT
 Color: (Choose from rind colors above)

12. SEED CAVITY: (Sectioned apex to base)

CM LENGTH
 CM WIDTH

Location: 1 = CONFORMS TO FRUIT SHAPE 2 = NEAR APEX 3 = APEX ONLY
 Placental Tissue: 1 = SPARSE 2 = MODERATELY ABUNDANT 3 = ABUNDANT
 Center Core: 1 = INCONSPICUOUS 2 = PROMINANT

13. FRUIT STALKS

CM LENGTH
 CM DIAMETER

1 = ROUND 2 = IRREGULAR
 1 = NOT TWISTED 2 = TWISTED
 1 = NOT TAPERED 2 = TAPERED
 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

Texture: 1 = SOFT 2 = SPONGY 3 = HARD
 Farrows: 1 = NONE 2 = SHALLOW 3 = DEEP

Surface: 1 = SMOOTH 2 = ROUGH 3 = SPINY
 Attachment End: 1 = NOT EXPANDED 2 = SLIGHTLY EXPANDED 3 = EXPANDED

Detaches: 1 = EASILY 2 = WITH DIFFICULTY
 Color: 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

EXPANDED PORTION IS MEDIUM YELLOW.

14. SEEDS

MM LENGTH
 MM WIDTH
 MM THICKNESS

Face Surface: 1 = SMOOTH 2 = WRINKLED 3 = SLIGHTLY PITTED 4 = SCALY 5 = CREASED
 Color: 1 = WHITE 2 = CREAM 3 = BUFF 4 = BROWN

Luster: 1 = DULL 2 = GLOSSY
 Margin: 1 = STRAIGHT 2 = CURVED 3 = TWISTED

Margin: 1 = ROUNDED 2 = WEDGE-LIKE

Separation from pulp: 1 = EASY 2 = MODERATELY EASY 3 = DIFFICULT
 GMS PER 100 SEEDS

NO. SEEDS PER FRUIT
 1 = NORMAL 2 = NAKED

15. DISEASE RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

POWDERY MILDEW
 CUCUMBER MOSAIC
 SQUASH MOSAIC

WATERMELON MOSAIC
 OTHER (Specify) _____

16. INSECT RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

SQUASH BUG
 SQUASH BORER
 OTHER (Specify) _____

17. INDICATE A VARIETY MOST CLOSELY RESEMBLING THAT SUBMITTED FOR EACH CHARACTER

CHARACTER	VARIETY	CHARACTER	VARIETY
PLANT HABIT	Spookie	FRUIT SHAPE	Spookie
LEAF TYPE	Spookie	FRUIT COLOR	Jersey Golden Acorn
FLOWER TYPE	Spookie	CULINARY TYPE	Small Sugar Pie

REFERENCES

- Currence, T. M. 1954. Vegetable Crops Breeding, Department of Horticulture, University of Minnesota.
- Tapley, W.T., Enzie, W.D. and Van Eseltine, G. P., 1937. Vegetables of New York: The Cucurbits 1 (4). J.B. Lyon Company, Albany, New York.
- USDA Farmness Bulletin No. 1086. 1969. Growing Pumpkins and Squashes.
- Whitaker, T.W. and G.N. Davies. Cucurbits. Interscience Publications, Inc., New York, N.Y.

State of Idaho

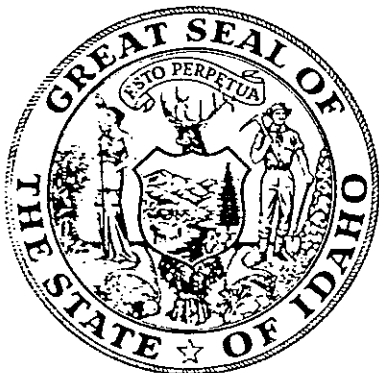
Department of State

CERTIFICATE OF MERGER OR CONSOLIDATION

I. PETE T. CENARRUSA, Secretary of State of the State of Idaho hereby certify that duplicate originals of Articles of _____ Merger _____ of _____
MUSSER SEED CO., INC., an Idaho corporation,
_____ into _____ ROGERS BROTHERS SEED COMPANY, a Delaware corporation _____, duly signed and verified pursuant to the provisions of the Idaho Business Corporation Act, have been received in this office and are found to conform to law.

ACCORDINGLY and by virtue, of the authority vested in me by law, I issue this certificate of _____ merger _____, and attach hereto a duplicate original of the Articles of _____ Merger _____.

Dated _____ June 30 _____, 19 89 .



Pete T. Cenarrusa
SECRETARY OF STATE

Corporation Clerk

ARTICLES OF MERGER
OF
MUSSER SEED CO., INC.

INTO

ROGERS BROTHERS SEED COMPANY,
A DELAWARE FOREIGN PARENT CORPORATION

JUN 30 2 15 PM '89
SECRETARY OF STATE

Pursuant to the provisions of Sections 30-1-75 and 30-1-77 of the Idaho Business Corporation Act, the undersigned corporation adopts the following Articles of Merger for the purpose of merging Musser Seed Co., Inc., a wholly-owned subsidiary corporation into the undersigned as the surviving corporation:

FIRST: The undersigned foreign corporation is incorporated under the laws of Delaware and the laws of such jurisdiction permit such a merger.

SECOND: The following Plan of Merger was adopted by the undersigned corporation in the manner prescribed by the laws of the jurisdiction under which it is organized.

RESOLVED, that Rogers Brothers Seed Company merge into itself its wholly-owned subsidiary, Musser Seed Co., Inc., the corporate existence of Rogers Brothers Seed Company, with all its purposes, powers and objects, shall continue unaffected and unimpaired by the merger and, as the surviving corporation, Rogers Brothers Seed Company shall succeed to all rights, assets, liabilities and obligations of Musser Seed Co., Inc.; and further

RESOLVED, that each share of common stock (\$1.00 par value) of Musser Seed Co., Inc. owned by Rogers Brothers Seed Company, such shares being all of the issued and outstanding shares of Musser Seed Co., Inc., shall be cancelled on the effective date of the merger, whereupon the separate existence and corporate organization of Musser Seed Co., Inc. shall cease; and further

RESOLVED, that the effective date of the merger shall be June 30, 1989; and further

RESOLVED, that the foregoing resolutions shall constitute an Agreement of Merger for the purpose of Section 258 of the Delaware Corporation Law and the appropriate officers of Rogers Brothers Seed Company be, and they hereby are, directed to make, execute and acknowledge a certificate of merger in accordance with such section, setting forth such Agreement of Merger, and to file the same in the office of the Secretary of the State of Delaware, and to file the same or a true copy thereof in such other offices as may be required by the Delaware Corporation Law; and further

RESOLVED, that the appropriate officers of Rogers Brothers Seed Company be, and they hereby are, directed to make, execute and acknowledge the Agreement of Merger in accordance with Section 30-1-77 of the Corporation Law of the State of Idaho, and to file the same in the office of the Secretary of the State of Idaho, and to file the same or a true copy thereof in such other offices as may be required by the Corporation Laws of the State of Idaho, and to appoint the Secretary of State of the State of Idaho as the agent of Rogers Brothers Seed Company to accept service of process in action for enforcement of any prior obligations of Musser Seed Co., Inc., and to agree that Rogers Brothers Seed Company may be sued in the State of Idaho for any prior obligation of Musser Seed Co., Inc. incurred after the merger; and further

RESOLVED, that the appropriate officers of Rogers Brothers Seed Company be, and they hereby are, authorized to take any and all further action and execute and deliver any and all further documents that may be necessary or desirable in order to carry out and effectuate fully the purposes set forth in the foregoing resolutions.

THIRD: The number of outstanding shares of each class of the subsidiary corporation and the number of such shares of each class owned by the surviving corporation are as follows:

<u>Name of Subsidiary</u>	<u>Number of Shares Outstanding</u>	<u>Designation of Class</u>	<u>No. of Shares Owned By Surviving Corporation</u>
Musser Seed Co., Inc.	156,519 Common Shares	Common Stock	156,519 Common Shares

FOURTH: The requirement that a copy of the plan of Merger set forth in Article Second was waived by the Corporation as sole shareholder on June 19, 1989.

FIFTH: The undersigned corporation hereby (a) agrees that it may be served with process in the State of Idaho in any proceeding for the enforcement of any obligation of the above-mentioned subsidiary corporation; and (b) irrevocably appoints the Secretary of State of Idaho as its agent to accept service of process in any such proceeding.

Dated: June 29, 1989.

ROGERS BROTHERS SEED COMPANY

By William B. Albers
William B. Albers
Its President, and

By Alden E. Hill
Alden E. Hill
Its Vice President of
Administration and Secretary

STATE OF IDAHO)
) SS
COUNTY OF ADA)

I, Mrs. Sharon L. Plaster, a notary public, do hereby certify that on this 29th day of June, 1989, personally appeared before me Alden E. Hill, who being by me first duly sworn, declared that he is the Vice President of Administration and Secretary of Rogers Brothers Seed Company, that he signed the foregoing document as Secretary of the corporation, and that the statements therein contained are true.

Mrs. Sharon L. Plaster
Notary Public for Idaho

Residing At: Boise, Idaho

My Commission expires: 5-27-91

STATE OF IDAHO)
) SS
COUNTY OF ADA)

I, Mrs Sharon L. Plaster, a notary public, do hereby certify that on this 29th day of June, 1989, personally appeared before me William B. Albers, who being by me first duly sworn, declared that he is the President of Rogers Brothers Seed Company, that he signed the foregoing document as President of the corporation, and that the statements therein contained are true.

Mrs. Sharon L. Plaster
Notary Public for Idaho
Residing at: Boise, Idaho

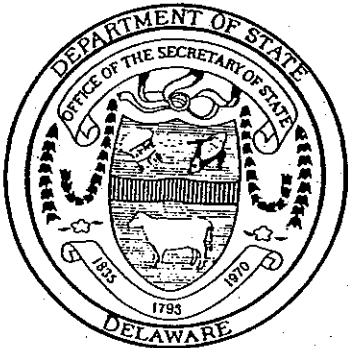
My Commission Expires: 5-27-91

State of Delaware



Office of Secretary of State

I, MICHAEL HARKINS, SECRETARY OF STATE OF THE STATE OF DELAWARE
DO HEREBY CERTIFY THAT "ROGERS BROTHERS SEED COMPANY", FILED A
CERTIFICATE OF AMENDMENT, CHANGING ITS CORPORATE TITLE TO "ROGERS
NK SEED CO.", ON THE TWENTY-SIXTH DAY OF DECEMBER, A.D. 1990, AT 10:01
O'CLOCK A.M.




Michael Harkins, Secretary of State

AUTHENTICATION:



DATE: 10/08/1991

AMENDED
STATEMENT AND DESIGNATION
BY
FOREIGN CORPORATION

DO NOT WRITE IN THIS SPACE

ROGERS NK SEED CO.

_____, a corporation
organized and existing under the laws of Delaware,
and which is presently qualified for the transaction of intrastate business in the
State of California, makes the following statements and/or designation:

That the name of the corporation has been changed to that hereinabove set forth
and that the name relinquished at the time of such change was _____

ROGERS BROTHERS SEED COMPANY

ROGERS NK SEED CO.
(Name of Corporation)

William B. Albers
(Signature of corporate officer)

William B. Albers, President
(Typed name and title of officer signing)

INSTRUCTIONS:

1. If this Amended Statement shows a change of corporate name, there must be attached to this Amended Statement a certificate of an authorized public official of the state or place of incorporation, that such change of name was made in accordance with the laws of that state or place.
2. For filing this Amended Statement there is a fee of \$15.00.

State of Delaware
Office of the Secretary of State

PAGE 1

I, WILLIAM T. QUILLEN, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT THE SAID "ROGERS NK SEED CO.", FILED A CERTIFICATE OF AMENDMENT, CHANGING ITS NAME TO "ROGERS SEED CO.", THE FIFTH DAY OF MAY, A.D. 1994, AT 9 O'CLOCK A.M.



William T. Quillen

William T. Quillen, Secretary of State

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944080001

AUTHENTICATION: 7120759

DATE: 05-16-94

CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
ROGERS NK SEED CO.

Adopted in accordance with the provisions
of Section 242 of the General Corporation
Law of the State of Delaware

EFFECTIVE DATE: June 1, 1994

We, Willem van Overschot, President, and Richard B. Geller, Secretary, of Rogers NK Seed Co., a corporation existing under the laws of the State of Delaware, do hereby certify as follows:

FIRST: The Certificate of Incorporation of the corporation was filed on 2/27/75.

SECOND: The Certificate of Incorporation of said corporation has been amended as follows:

By striking out the whole of Article I thereof as it now exists and inserting in lieu and instead thereof, a new Article I, reading as follows:

ARTICLE I

Name

The name of the Corporation is ROGERS SEED CO.

THIRD: Such amendment has been duly adopted in accordance with the provisions of the General Corporation Law of the State of Delaware, by the unanimous written consent of all of the stockholders entitled to vote in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

FOURTH: See attached Written Consent of Sole Shareholder and Board of Directors' Resolution.

IN WITNESS WHEREOF, we have signed this certificate this 13th day of April, 1994.

Willem van Overschot
Willem van Overschot, President

Richard B. Geller
Richard B. Geller, Secretary

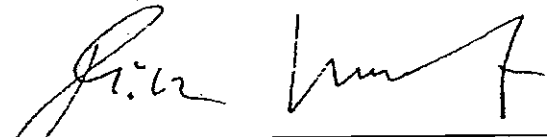
ROGERS NK SEED CO.

WRITTEN CONSENT OF SOLE SHAREHOLDER

SANDOZ CORPORATION, owner of all of the issued and outstanding shares of ROGERS NK SEED CO., hereby consents, pursuant to Section 228 of the Delaware General Corporation Law, to the adoption of the following resolution as and for the act of the shareholder:

RESOLVED, that SANDOZ CORPORATION, as sole shareholder, approves the amendment to Article I of the Certificate of Incorporation of ROGERS NK SEED CO., changing its name to **ROGERS SEED CO.**

Dated: April 22, 1994



Heinz P. Imhof,
Chief Executive Officer
Sandoz Corporation

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01

ROGERS NK SEED CO.

RESOLUTION

RESOLVED, that according to Section 242 of the General Corporation Law of the State of Delaware, that Article I of the Certificate of Incorporation be amended, effective June 1, 1994, to read as follows: The name of the Corporation is **ROGERS SEED CO.**; and, further,

RESOLVED, that the appropriate officers of Rogers NK Seed Co. be, and they hereby are, authorized to take any and all further action and execute and deliver any and all further documents that may be necessary or desirable in order to carry out and effectuate fully the purposes set forth in the foregoing resolution.

ADOPTED UNANIMOUSLY BY THE BOARD
MARCH 31, 1994

Richard B. Geller
Richard B. Geller, Secretary

State of Delaware
Office of the Secretary of State PAGE 1

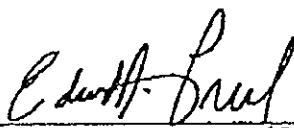
I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"ROGERS SEED CO.", A DELAWARE CORPORATION,
WITH AND INTO "NOVARTIS SEEDS, INC." UNDER THE NAME OF
"NOVARTIS SEEDS, INC.", A CORPORATION ORGANIZED AND EXISTING
UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED
IN THIS OFFICE THE TWENTY-FIFTH DAY OF JUNE, A.D. 1997, AT 9
O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO
THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



0829320 8100M
971211787


Edward J. Freel, Secretary of State

AUTHENTICATION: 8531908
06-26-97

DATE:

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 06/25/1997
971211787 - 0829320

**CERTIFICATE OF MERGER
OF
ROGERS SEED CO.
INTO
NOVARTIS SEEDS, INC.**

The undersigned corporation organized and existing under and by virtue of the General Corporation Law of Delaware,

DOES HEREBY CERTIFY:

FIRST: That the name and state of incorporation of each on the constituent corporations of the merger is as follows:

NAME	STATE OF INCORPORATION
Novartis Seeds, Inc.	Delaware
Rogers Seed Co.	Delaware

SECOND: That an Agreement and Plan of Merger between the parties to the merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations in accordance with the requirements of section 251 of the General Corporation Law of Delaware

THIRD: That the name of the surviving corporation is Novartis Seeds, Inc.

FOURTH: That the Certificate of Incorporation of Novartis Seeds, Inc., a Delaware corporation which will survive the merger, shall be the Certificate of Incorporation of the surviving corporation.


FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

SIXTH: That a copy of the Agreement and Plan of Merger will be furnished by the surviving corporation, on request and without cost, to any stockholder of any constituent corporation.

SEVENTH: That this Certificate of Merger shall be effective on July 1, 1997.

Dated June 23, 1997

NOVARTIS SEEDS, INC.

By: 
Name: Edward C. Resler
Title: Vice President & General Counsel